ALUMINUM SULFONATE/POLYMER TOPCOAT MGS-96-03C

1.0 Description. This specification covers a medium to light gray and a brown low gloss Aluminum Sulfonate/Polymer Topcoat for use over an Aluminum Sulfonate/Polymer Primer or an Aluminum Epoxy Mastic Primer.

1.1 The coating shall be a single package, lead free, linseed oil alkyd containing calcium sulfonate.

1.2 The coating shall be lead free and shall meet current VOC (Volatile Organic Content) restrictions.

1.3 The coating shall contain a corrosion-inhibitive pigment system and shall exhibit excellent weathering properties when applied at thicknesses of 4 to 8 mils dry film thickness (DFT). It shall dry to a flat or stain finish.

1.4 The coating is recommended for use as a finish coat on weathered galvanized steel, over old, tightly adhering paints as recommended by the coating manufacturer or properly primed steel.

2.0 Reference Standards.

2.1 Test Methods for Properties:

ASTM D562 -- Consistency of Paints Using Stormer Viscometer
ASTM D1210 -- Fineness of Dispersion of Pigment - Vehicle Systems
ASTM D1475 -- Density of Paint, Varnish, Lacquer and Related Products
ASTM D3960 -- Volatile Organic Content (VOC) of Paints
ASTM B117 -- Salt Fog Resistance Test
BROWN only: ASTM G53 -- Operating the Light- and Water-Exposure Apparatus

2.2 Standard Specifications for Ingredients:

TT-T-291 -- Thinner Paint, Mineral Spirits, Regular and Odorless, Type I

2.3 Federal Test Method Standard No. 141:

Method 4021 -- Pigment Content (centrifuge)
Method 4041 -- Volatile and Non-Volatile Content
Method 4053 -- Non-Volatile Vehicle Content
Method 4061 -- Drying Time
Method 4203 -- Reducibility and Dilution Stability
Method 4494 -- Sag Test (multi-notch blade)

3.0 Composition. All materials submitted under this specification shall conform to the compositional analysis shown.

	Percent by Weight
Pigment	20 - 25
Metallic Aluminum	41 - 44
Zinc Oxide and Calcium Ion Exchange Inhibitive Pigments	32 - 35
Color Pigments and Inerts	22 - 25

	Percent by Weight
Vehicle	75 - 80
Sulfonate/Polymer Solids	51 - 61
Calcium Carbonate Solids	12 - 16
Solvent, maximum	32
Paint Driers	1.5 - 2.5

3.1 Any paint based on the specified ingredients shall be uniform, stable in storage and free from grit and coarse particles.

4.0 Properties.

4.1 Mixed Paint.

	GRAY Percent by Weight	BROWN Percent by Weight
Total Solids, minimum	72	72
Pigment, extracted with mineral spirits, minimum	20	20
Non-Volatile in Vehicle, minimum	65	65
Viscosity, 77F, KU	66 – 118	66 - 118
Weight per US Gallon, lbs, minimum	8.6	8.6
Volatile Organic Content, lb/gal max.	3.5	3.5
Sag Resistance, mils, min.	12+	12+
Drying Time (2 - 3 mils dry film)	Hours	Hours
To Touch	4 – 18	4 - 18
Tack Free	18 – 24	12 - 24
Dry Hard	48 – 168	24 - 168
Salt Spray Resistance, 1,500 hours (panel coated with penetrating sealer, midcoat primer and 4 mil dry film thickness of finish coat, over SSP-SP-5 blasted cold rolled steel: 1 - 2 mil profile)	No more than 1% rust undercutting, blistering or peeling.	No more than 1% rust undercutting, blistering or peeling.
BROWN ONLY:		
QUV Weathering Resistance, 1,500 hours (panel coated with penetrating sealer, midcoat primer and 4 mil dry film thickness of finish coat, over SSP-SP-5 blasted cold rolled steel: 1-2 mil profile)	---- .	No excessive chalking blistering or change in color.

4.2 Odor. The odor shall be normal for the materials permitted (ASTM D1296).

4.3 Color. The gray color shall be similar in appearance to color number 26373 of Federal Standard 595b. The brown color shall be similar in appearance to color number 30045 of Federal Standard 595b.

4.4 Compatibility. There shall be no evidence of incompatibility of any of the ingredients of the paint when two (2) volumes of paint are mixed with one (1) volume of mineral spirits (Federal Standards No. 141, Method 4203).

4.5 Application Conditions. The coating shall be capable of being applied when the material is a temperature of between 2 C and 49 C. Normal material temperature shall be 10 to 32 C.

4.5.1 The coating shall be capable of being applied when the surface temperature is between 2 C and 74 C. Normal surface temperature shall be 13 to 32 C.

4.5.2 The coating shall be capable of being applied when the ambient temperature is between 2 C and 49 C. Normal ambient temperature shall be 13 to 38 C.

4.5.3 The coating shall be capable of being applied at relative humidities of up to 95 percent. Normal humidity shall be between 30 and 90 percent.

4.6 The shelf life of the coating shall be a minimum of 24 months when stored at 75C.

4.7 The coating shall have a theoretical coverage rate of 290 square feet per mixed gallon at 4 mils dry film thickness.

4.8 The coating shall be applied at 4 mils dry film thickness over properly primed, cleaned surfaces, or others as recommended by the coating manufacturer.

4.9 The coating shall be capable of being applied by airless or conventional spray with equipment of the type listed on manufacturer's current product data sheet. It shall be capable of being applied by roller or brush provided manufacturer's recommendations are followed.

5.0 Labeling. Each container shall be legibly marked with the following information as applicable:

Name: Aluminum Sulfonate/Polymer Topcoat
Specification:
Color: Gray or Brown
Lot Number:
Date of Manufacture:
Quantity of Paint in Container:
Information and Warnings as may be required by Federal and State Laws
Manufacturer's Name and Address:

6.0 Inspection. All material supplied under this specification shall be subject to timely inspection by the department or authorized representative. The department shall have the right to reject any materials supplied which are found not to comply with the requirements of this specification.

6.1 Samples of any or all ingredients used in the manufacture of this paint may be requested by the department and shall be supplied upon request, along with the supplier's name and identification for the material.

7.0 Acceptance. Acceptance of Aluminum Sulfonate/Polymer Topcoat will be based on tests performed by the engineer or authorized representative.